

## Interpreting Box and Whisker Plots

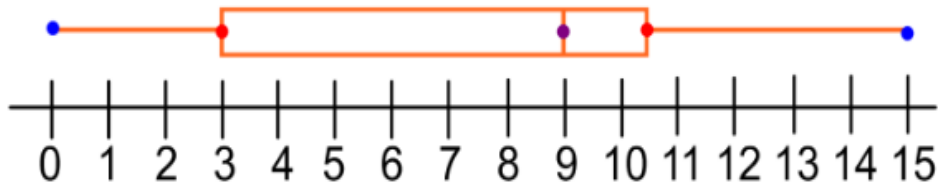


### Each Quartile Represents 25% of the Data

Students were asked how many books they read over the summer. Their responses were:

0 1 2 3 4 5 7 9 10 10 10 11 11 14 15

Here is a box and whisker that summarizes the data.



25% of students read 3 or less books.

25% of students read between 3 and 9 books.

50% of students read 9 or more books.

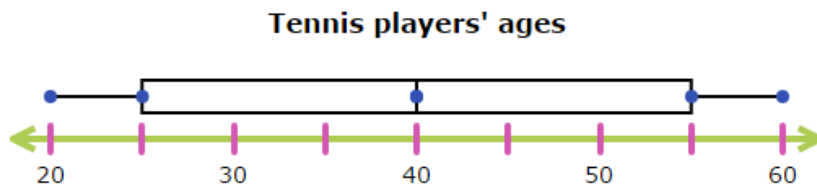
75% of students read 3 or more books.

100% of students read 15 or less books.

# Box & Whisker Practice Problems

1.

At a tennis tournament, the organizers gather data regarding the players' ages. This box-and-whisker plot shows the results.

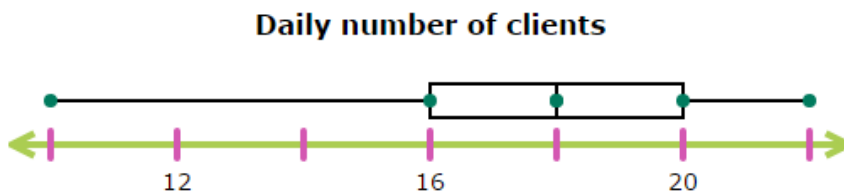


What is the maximum value?

years

2.

Mei was planning to start a hair salon and wanted to know how many clients to expect, so she tracked the daily client count at several other hair salons. This box-and-whisker plot shows the results.



What percent of the salons have between 18 and 20 clients each day?

0%

25%

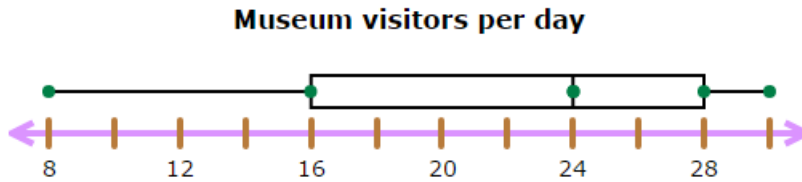
50%

75%

100%

3.

The city of Ashland is developing new hours of operation for its museums based on attendance. They study how many people attend each museum daily. This box-and-whisker plot shows the results.

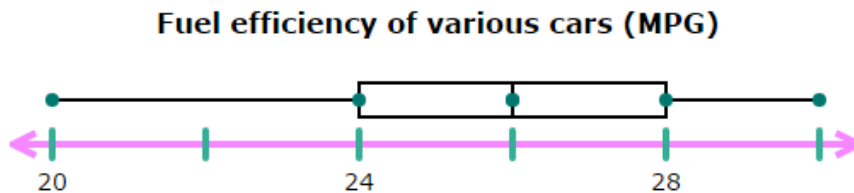


What percent of the museums have 16 or more visitors each day?

0%	25%	50%
75%	100%	

4.

Amanda is considering purchasing a new car and is looking at fuel efficiency of various models. This box-and-whisker plot shows the results.

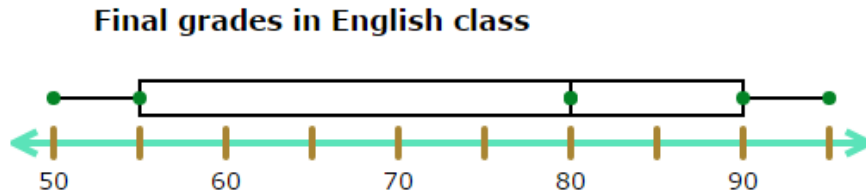


What is the value of the upper quartile?

MPG

5.

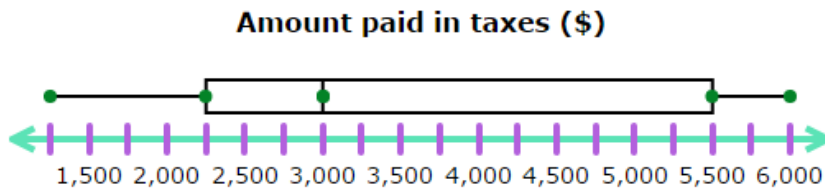
Mrs. Davidson noted the final grade for each of her students. This box-and-whisker plot shows the results.



What is the maximum value?

6.

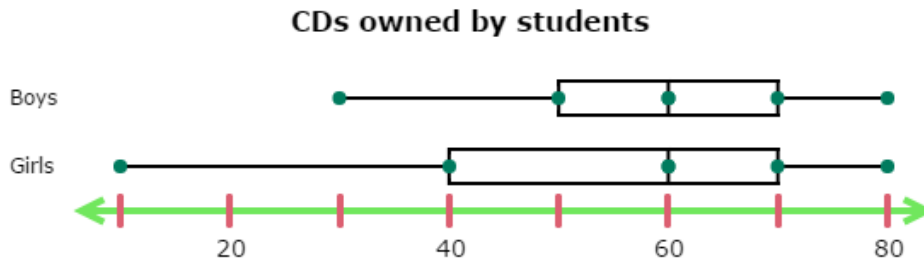
Elizabeth is running for office and wants to know the amount of income tax paid last year by households in her district. This box-and-whisker plot shows the results.



What percent of the households paid \$3,000 or less in income tax?

7.

A graduate student at a local college is researching whether there is a difference in the amount of CDs owned by boys or girls. She conducts a poll of students at a local school. These box-and-whisker plots show the results.



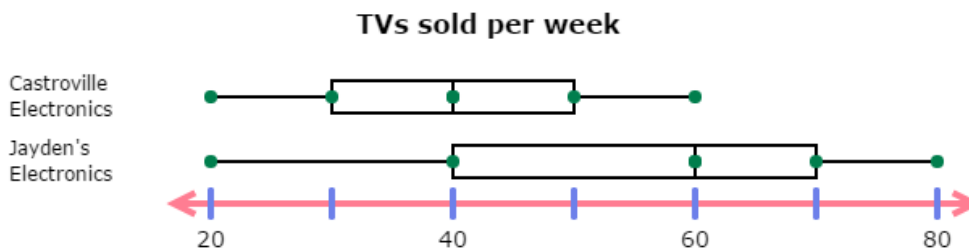
Which group has a minimum value that is higher?

boys

girls

8.

The distribution manager for a brand of televisions is looking at weekly TV sales at two stores - Castroville Electronics and Jayden's Electronics. These box-and-whisker plots show the results.



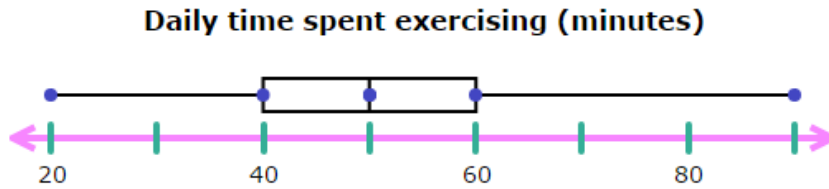
Which electronics store has a larger range?

Castroville Electronics

Jayden's Electronics

9.

An online health survey asked respondents to state how much time they spend exercising every day. This box-and-whisker plot shows the results.



What is the median?

minutes

10. Circle all that are true:

A)  $16 = 2^3$

B)  $5 \cdot 7 + 2^2 = 4 \cdot 10 - 1^4$

C)  $7 \cdot 8 = 8 \cdot 7$

D)  $5 \cdot 5 \cdot 5 = 25 \cdot 5$

E)  $6 + m = m + 6$

F)  $(11 - 5) \cdot 3 = 11 - (5 \cdot 3)$

11. Circle all that are not true:

A)  $12 \cdot 12 \cdot 12 = 12^3$

B)  $\frac{1}{2} + \frac{1}{2} + \frac{1}{2} = 1.75$

C)  $.007 = \frac{7}{1000}$

D)  $3 \cdot 6 = 18$

E)  $12 - 5 = 28 \div 4$

F)  $2 + 2 + 2 + 2 = 2^4$

12. Circle all that are true:

A)  $15 \cdot 12 = 300$

B)  $100 \div 10 = 3 \cdot 5$

C)  $2^4 = 4^2$

D)  $3^3 = 9$

E)  $7 \cdot 4 = 12$

F)  $2 \cdot 3 \cdot 4 = 12 \cdot 2$

13. Circle all that are not true:

A)  $2 \cdot 4 \geq 3^2$

B)  $500 \div 5^3 = 4$

C)  $100 \div 5 = 25$

D)  $8 \cdot 6 = 6 \cdot 4 + 4$

E)  $2 + 2 = 2^2$

F)  $80 = 37 + 42$